IN THE CLAIMS:

Please cancel Claims 75 and 76 without prejudice to or disclaimer of the subject matter contained therein.

Please amend Claims 1-8, 10-16, 18-21, 25-33, 35-39, 44, 47, 50-51, 55-58, 69, 70, and 72-74 and add new Claims 77-84 as follows.

1. (Currently Amended) ~~A~~ An acoustic signal processing computer apparatus comprising:

one or more receivers for receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a plurality of acoustic signal sources;

a memory for storing a predetermined function which gives, for a given set of received signal values, a probability density for parameters of a respective signal model, each of which is assumed to have generated a respective one of the acoustic signals represented by the received signal values;

~~means for applying~~ an applicator operable to apply the set of received signal values to said stored function to generate said probability density function;

~~means for processing~~ a processor operable to process said probability density function to derive samples of parameter values from said probability density function; and

~~means for analysing~~ an analyser operable to analyse at least some of said derived samples of parameter values to determine, for at least one of said sources, parameter values that are representative of the acoustic signals generated by said at least one of said sources.

2. (Currently Amended) An apparatus according to claim 1, wherein said ~~processing means~~ processor is operable to draw samples of parameter values from said probability density function and wherein said ~~analysing means~~ analyser is operable to analyse said drawn samples to determine said parameter values that are representative of the acoustic signals generated by said at least one of said sources.

3. (Currently Amended) An apparatus according to claim 2, wherein said ~~processing means~~ processor is operable to draw samples iteratively from said probability density function.

4. (Currently Amended) An apparatus according to claim 2, wherein said ~~processing means~~ processor comprises a Gibbs sampler.

5. (Currently Amended) An apparatus according to claim 1, wherein said ~~analysing means~~ analyser is operable to determine a histogram of said derived samples and wherein said parameter values are determined from said histogram.

6. (Currently Amended) An apparatus according to claim 5, wherein said ~~analysing means~~ analyser is operable to determine said parameter values using a weighted sum of said derived samples, and wherein the weighting for each sample is determined from said histogram.

7. (Currently Amended) An apparatus according to claim 1, wherein said ~~receiving means~~ one or more receivers is operable to receive a sequence of sets of signal values representative of acoustic signals generated by said plurality of signal sources and wherein said ~~applying means~~ applicator, ~~processing means~~ processor and ~~analysing means~~ analyser are operable to perform their function with respect to each set of received signal values in order to determine parameter values that are representative of the acoustic signals generated by said at least one of said sources.

8. (Currently Amended) An apparatus according to claim 7, wherein said ~~processing means~~ processor is operable to use the parameter values obtained during the processing of a preceding set of signal values as initial estimates for the parameter values of a current set of signal values being processed.

9. (Original) An apparatus according to claim 7, wherein said sets of signal values in said sequence are non-overlapping.

10. (Currently Amended) An apparatus according to claim 1, wherein said signal model comprises an auto-regressive process ~~model,~~ model and wherein said parameters include auto-regressive model ~~co-efficients~~ coefficients.

11. (Currently Amended) An apparatus according to claim 1, wherein said ~~analysing means~~ analyser is operable to analyse at least some of said derived samples of

parameter values to determine a measure of the variance of said samples and wherein the apparatus further comprises ~~means for outputting~~ an outputter operable to output a signal indicative of the quality of said received set of signal values in dependence upon said determined variance measure.

12. (Currently Amended) An apparatus according to claim 11, wherein said probability density function is in terms of said variance measure, wherein said ~~processing means~~ processor is operable to draw samples of said variance measure from said probability density function and wherein said ~~analysing means~~ analyser is operable to analyse the drawn variance samples.

13. (Currently Amended) An apparatus according to claim 1, wherein said received set of signal values are representative of acoustic signals generated by a plurality of acoustic signal sources as modified by a respective transmission channel between each source and the or each receiver; wherein said predetermined function includes a plurality of first parts each associated with a respective one of said acoustic signal sources and each having a set of parameters which models the corresponding source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more receivers, each second part having a respective set of parameters which models the corresponding channel and wherein said ~~processing means~~ processor is operable to obtain values of the parameters associated with at least one of said first parts from said probability density function.

14. (Currently Amended) An apparatus according to claim 13, wherein said function is in terms of a set of raw signal values representative of the acoustic signals generated by said sources before being modified by said transmission channels, wherein the apparatus further comprises a second ~~processing means for processing~~ processor operable to process the received set of signal values with initial estimates of said first and second parameters, to generate an estimate of the raw signal values corresponding to the received set of signal values and wherein said ~~applying means~~ applicator is operable to apply said estimated set of raw signal values to said function in addition to said set of received signal values.

15. (Currently Amended) An apparatus according to claim 14, wherein said second ~~processing means~~ processor comprises a simulation smoother.

16. (Currently Amended) An apparatus according to claim 14, wherein said second ~~processing means~~ processor comprises a Kalman filter.

17. (Original) An apparatus according to claim 13, wherein one or more of said second parts comprises a moving average model and wherein the corresponding second parameters comprise moving average model coefficients.

18. (Currently Amended) An apparatus according to claim 1, further comprising ~~means for evaluating~~ an evaluator operable to evaluate said probability density function for the set of received signal values using one or more derived samples of parameter values for different

numbers of parameter values for each of said signal models, to determine respective probabilities that the predetermined signal models have those respective parameter values and wherein said ~~processing means~~ processor is operable to process at least some of said derived samples of parameter values and said evaluated probabilities to determine said parameter values that are representative of the acoustic signals generated by said at least one of said sources.

19. (Currently Amended) An apparatus according to claim 1, wherein said ~~analysing means~~ analyser is operable to determine, for each acoustic signal source, respective parameter values that are representative of ~~each of~~ the acoustic signals generated by ~~said sources~~ the corresponding acoustic source.

20. (Currently Amended) An apparatus according to claim 1, further comprising ~~means for varying~~ a varying circuit operable to vary said stored predetermined function to vary the number of acoustic signal sources represented thereby, and wherein said ~~applying means~~ applicator, ~~processing means~~ processor and ~~analysing means~~ analyser are operable to perform their function for the respective different predetermined functions in order to determine the number of acoustic signal sources.

21. (Currently Amended) An apparatus according to claim 1, wherein said memory stores a plurality of predetermined functions each of which gives, for a given set of received signal values, a probability density for parameters of a respective different plurality of signal models which are assumed to have generated the acoustic signals represented by the

received signal values; wherein said ~~applying means, processing means and analysing means~~ applicator, processor and analyser are operable to perform their function with respect to each of said stored functions and wherein the apparatus further comprises ~~evaluation means for evaluating~~ an evaluator operable to evaluate each of said functions with the determined parameter values for the respective functions and ~~means for comparing~~ a comparator operable to compare the evaluated functions to determine the number of sources that best represents the received signal values.

22. (Original) An apparatus according to claim 1, comprising a plurality of receivers.

23. (Original) An apparatus according to claim 1, wherein said received set of signal values are representative of audio signals.

24. (Original) An apparatus according to claim 23, wherein said received set of signal values are representative of speech signals.

25. (Currently Amended) An apparatus according to claim 1, further comprising ~~means for comparing~~ a comparator operable to compare said determined parameter values with pre-stored parameter values to generate a comparison result.

26. (Currently Amended) An apparatus according to claim 1, further comprising ~~recognition means for comparing~~ a recogniser operable to compare said determined parameter values with pre-stored reference models to generate a recognition result.

27. (Currently Amended) An apparatus according to ~~claim 1~~ claim 24, further comprising a speaker ~~verification means for comparing~~ verifier operable to compare said determined parameter values with pre-stored speaker models to generate a verification result.

28. (Currently Amended) An apparatus according to claim 1, further comprising ~~means for encoding~~ an encoder operable to encode said determined parameter values.

29. (Currently Amended) An apparatus according to claim 28, further comprising ~~means for transmitting~~ a transmitter operable to transmit said encoded parameter values ~~and a receiver for receiving the transmitted encoded parameter values, which receiver includes decoding means for decoding the encoded parameter values and processing means for generating an output signal in dependence upon the decoded parameter values~~.

30. (Currently Amended) An apparatus according to claim ~~29~~ 84, wherein said ~~processing means of said receiver~~ generator comprises ~~means for~~ a speech synthesiser operable for synthesising speech using the decoded parameter values.

31. (Currently Amended) An apparatus according to claim ~~29~~ 84, wherein said ~~processing means of said receiver~~ generator comprises recognition ~~processing means for performing~~ a recogniser operable to perform recognition processing of said decoded parameter values to generate a recognition result.

32. (Currently Amended) ~~An~~ A computer apparatus for generating annotation data for use in annotating a data file, the apparatus comprising:

~~means for receiving~~ a receiver operable to receive an audio annotation representative of audio signals generated by a plurality of ~~signal~~ audio sources;

an apparatus according to claim 1 for generating ~~parameters~~ parameter values that are representative of the audio signals generated by at least one of said sources; and

~~means for generating~~ a generator operable to generate annotation data using said determined parameter values.

33. (Currently Amended) An apparatus according to claim 32, wherein said audio annotation comprises speech data and wherein said apparatus further comprises a speech ~~recognition means~~ recogniser for processing the parameter values to identify words and/or phonemes within the speech data; and wherein said annotation data comprises said ~~word~~ words and/or ~~phoneme data~~ phonemes.

34. (Original) An apparatus according to claim 33, wherein said annotation data defines a phoneme and word lattice.

35. (Currently Amended) ~~An~~ A computer apparatus for searching a database comprising a plurality of annotations which include annotation data, the apparatus comprising:

~~means for receiving~~ a receiver operable to receive an audio input query representative of audio signals generated by a plurality of audio sources;

an apparatus according to claim 1 for determining parameter values that are representative of the audio signals generated by at least one of said audio sources; and

~~means for comparing~~ a comparator operable to compare data representative of said determined parameter values with the annotation data of one or more of said annotations.

36. (Currently Amended) An apparatus according to claim 35, wherein said audio query comprises speech data and wherein the apparatus further comprises a speech ~~recognition means~~ recogniser for processing the speech data to identify ~~words~~ word and/or phoneme data for the speech data; wherein said annotation data comprises word and/or phoneme data and wherein said ~~comparing means compares~~ comparator is operable to compare said word and/or phoneme data of said query with said word and/or phoneme data of said annotation.

37. (Currently Amended) ~~A~~ An acoustic signal processing computer apparatus comprising:

one or more ~~receiving means for receiving~~ receivers operable to receive a set of signal values representative of a ~~plurality~~ combination of a plurality of acoustic signals generated by a respective plurality of acoustic signal sources as modified by a respective transmission channel between each source and the or each ~~receiving means~~ receiver;

~~means for storing~~ a memory operable to store data defining a predetermined function derived from a predetermined signal model which includes a plurality of first parts each associated with a respective one of said acoustic signal sources and each having a set of parameters which models the corresponding acoustic source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more ~~receiving means~~ receivers, each second part having a respective set of parameters which models the corresponding channel, said function being in terms of said parameters and generating, for a given set of received signal values, a probability density function which defines, for a given set of parameters, the probability that the predetermined signal model has those parameter values, given that the signal model is assumed to have generated the received set of signal values;

~~means for applying~~ an applicator operable to apply said set of received signal values to said function;

~~means for processing~~ a processor operable to process said function with those values applied to derive samples of the parameters associated with at least one of said first parts from said probability density function; and

~~means for analysing~~ an analyser operable to analyse at least some of said derived samples to determine values of said parameters of said at least one first part, that are representative of the acoustic signal generated by the source corresponding to said at least one first part before it was modified by the corresponding transmission channel.

38. (Currently Amended) A computer based acoustic signal processing method comprising the steps of:

receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a plurality of acoustic signal sources using one or more receivers;

storing a predetermined function which gives, for a given set of received signal values, a probability density for parameters of a respective signal model, each of which is assumed to have generated a respective one of the acoustic signals represented by the received signal values;

applying the set of received signal values to said stored function to generate said probability density function;

processing said probability density function to derive samples of parameter values from said probability density function; and

analysing at least some of said derived samples of parameter values to ~~determine~~ determine, for at least one of said sources, parameter values that are representative of the acoustic signals generated by said at least one of said sources.

39. (Currently Amended) A method according to claim 38, wherein said processing step draws samples of parameter values from said probability density function and wherein said analysing step analyses said drawn samples to determine said parameter values that are representative of the acoustic signals generated by said at least one of said sources.

40. (Original) A method according to claim 39, wherein said processing step draws samples iteratively from said probability density function.

41. (Original) A method according to claim 39, wherein said processing step uses a Gibbs sampler.

42. (Original) A method according to claim 38, wherein said analysing step determines a histogram of said derived samples and wherein said parameter values are determined from said histogram.

43. (Original) A method according to claim 42, wherein said analysing step determines said parameter values using a weighted sum of said derived samples, and wherein the weighting for each sample is determined from said histogram.

44. (Currently Amended) A method according to claim 38, wherein said receiving step receives a sequence of sets of signal values representative of acoustic signals generated by said plurality of signal sources and wherein said applying step, processing step and analysing step are performed for each set of received signal values in order to determine parameter values that are representative of the acoustic signals generated by said at least one of said sources.

45. (Original) A method according to claim 44, wherein said processing step uses the parameter values obtained during the processing of a preceding set of signal values as initial estimates for the parameter values of a current set of signal values being processed.

46. (Original) A method according to claim 44, wherein said sets of signal values in said sequence are non-overlapping.

47. (Currently Amended) A method according to claim 38, wherein said signal model comprises an auto-regressive process ~~model,~~ model and wherein said parameters include auto-regressive model ~~co-efficients~~ coefficients.

48. (Original) A method according to claim 38, wherein said analysing step analyses at least some of said derived samples of parameter values to determine a measure of the variance of said samples and wherein the method further comprises the step of outputting a signal indicative of the quality of said received set of signal values in dependence upon said determined variance measure.

49. (Original) A method according to claim 48, wherein said probability density function is in terms of said variance measure, wherein said processing step draws samples of said variance measure from said probability density function and wherein said analysing step analyses the drawn variance samples.

50. (Currently Amended) A method according to claim 38, wherein said received set of signal values are representative of acoustic signals generated by a plurality of acoustic signal sources as modified by a respective transmission channel between each source and the or each receiver; wherein said predetermined function includes a plurality of first parts each associated with a respective one of said acoustic signal sources and each having a set of parameters which models the corresponding source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more receivers, each second part having a respective set of parameters which models the corresponding channel and wherein said processing step obtains values of the parameters associated with at least one of said first parts from said probability density function.

51. (Currently Amended) A method according to claim 50, wherein said function is in terms of a set of raw signal values representative of the acoustic signals generated by said sources before being modified by said transmission channels, wherein the method further comprises a second processing step of processing the received set of signal values with initial estimates of said first and second parameters to generate an estimate of the raw signal values corresponding to the received set of signal values and wherein said applying step applies said estimated set of raw signal values to said function in addition to said set of received signal values.

52. (Original) A method according to claim 51, wherein said second processing step uses a simulation smoother.

53. (Original) A method according to claim 51, wherein said second processing step uses a Kalman filter.

54. (Original) A method according to claim 50, wherein one or more of said second parts comprises a moving average model and wherein the corresponding second parameters comprise moving average model coefficients.

55. (Currently Amended) A method according to claim 38, further comprising the step of evaluating said probability density function for the set of received signal values using one or more derived samples of parameter values for different numbers of parameter values for each of said signal models, to determine respective probabilities that the predetermined signal models have those respective parameter values and wherein said processing step processes at least some of said derived samples of parameter values and said evaluated probabilities to determine said parameter values that are representative of the acoustic signals generated by said at least one of said sources.

56. (Currently Amended) A method according to claim 38, wherein said analysing step determines, for each acoustic signal source, respective parameter values that are representative of ~~each of~~ the acoustic signals generated by ~~said sources~~ the corresponding source.

57. (Currently Amended) A method according to claim 38, further comprising the step of varying said stored predetermined function to vary the number of acoustic signal sources represented thereby, and wherein said applying step, processing step and analysing step are performed for the respective different predetermined functions in order to determine the number of acoustic signal sources.

58. (Currently Amended) A method according to claim 38, wherein a plurality of predetermined functions are stored, each of which gives, for a given set of received signal values, a probability density for parameters of a respective different plurality of signal models which are assumed to have generated the acoustic signals represented by the received signal values; wherein said applying step, processing step and analysing step are performed with respect to each of said stored functions and wherein the method further comprises the step of evaluating each of said functions with the determined parameter values for the respective functions and comparing the evaluated functions to determine the number of acoustic sources that best represents the received signal values.

59. (Original) A method according to claim 38, wherein said receiving step uses a plurality of receivers to receive said signal values.

60. (Original) A method according to claim 38, wherein said received set of signal values are representative of audio signals.

61. (Original) A method according to claim 60, wherein said received set of signal values are representative of speech signals.

62. (Original) A method according to claim 38, further comprising the step of comparing said determined parameter values with pre-stored parameter values to generate a comparison result.

63. (Original) A method according to claim 38, further comprising the step of using a recognition processor for comparing said determined parameter values with pre-stored reference models to generate a recognition result.

64. (Original) A method according to claim 38, further comprising the step of using a speaker verification system for comparing said determined parameter values with pre-stored speaker models to generate a verification result.

65. (Original) A method according to claim 38, further comprising the step of encoding said determined parameter values.

66. (Original) A method according to claim 65, further comprising the step of transmitting said encoded parameter values and, at a receiver, receiving the transmitted encoded parameter values, decoding the encoded parameter values and generating an output signal in dependence upon the decoded parameter values.

67. (Original) A method according to claim 66, wherein said generating step at said receiver synthesises speech using the decoded parameter values.

68. (Original) A method according to claim 66, wherein said generating step at said receiver comprises performing recognition processing of said decoded parameter values to generate a recognition result.

69. (Currently Amended) A computer based method for generating annotation data for use in annotating a data file, the method comprising the steps of:

receiving an audio annotation representative of audio signals generated by a plurality of audio signal sources;

a method according to claim 38 for generating parameters values that are representative of the audio signals generated by at least one of said audio sources; and

generating annotation data using said determined parameter values.

70. (Currently Amended) A method according to claim 69, wherein said audio annotation comprises speech data and wherein said method further comprises the step of using a speech recognition system to process the parameter values to identify words and/or phonemes within the speech data; and wherein said annotation data comprises said ~~word~~ words and/or ~~phoneme data~~ phonemes.

71. (Original) A method according to claim 70, wherein said annotation data defines a phoneme and word lattice.

72. (Currently Amended) A computer based method for searching a database comprising a plurality of annotations which include annotation data, the method comprising the steps of:

receiving an audio input query representative of audio signals generated by a plurality of audio sources;

a method according to claim 38 for determining parameter values that are representative of the audio signals generated by at least one of said audio sources; and

comparing data representative of said determined parameter values with the annotation data of one or more of said annotations.

73. (Currently Amended) A method according to claim 72, wherein said audio query comprises speech data and wherein the method further comprises the step of using a speech recognition system to process the speech data to identify ~~words~~ word and/or phoneme data for the speech data; wherein said annotation data comprises word and/or phoneme data and wherein said comparing step compares said word and/or phoneme data of said query with said word and/or phoneme data of said annotation.

74. (Currently Amended) A computer based acoustic signal processing method comprising the steps of:

using one or more receivers to receive a set of signal values representative of a combination of a plurality of acoustic signals generated by a respective plurality of acoustic signal sources as modified by a respective transmission channel between each source and the or each receiver;

storing data defining a predetermined function derived from a predetermined signal model which includes a plurality of first parts each associated with a respective one of said signal sources and each having a set of parameters which models the corresponding source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more ~~receiving means~~ receivers, each second part having a respective set of parameters which models the corresponding channel, said function being in terms of said parameters and generating, for a given set of received signal values, a probability density function which defines, for a given set of parameters, the probability that the predetermined signal model has those parameter values, given that the signal model is assumed to have generated the received set of signal values;

applying said set of received signal values to said function;

processing said function with those values applied to derive samples of the parameters associated with at least one of said first parts from said probability density function; and

analysing at least some of said derived samples to determine values of said parameters of said at least one first part, that are representative of the acoustic signal generated by the source corresponding to said at least one first part before it was modified by the corresponding transmission channel.

75-76. (Cancelled)

77. (New) An acoustic signal processing computer apparatus comprising:

one or more receivers for receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a plurality of acoustic signal sources;

means for storing a predetermined function which gives, for a given set of received signal values, a probability density for parameters of a respective signal model, each of which is assumed to have generated a respective one of the acoustic signals represented by the received signal values;

means for applying the set of received signal values to said stored function to generate said probability density function;

means for processing said probability density function to derive samples of parameter values from said probability density function; and

means for analysing at least some of said derived samples of parameter values to determine, for at least one of said acoustic sources, parameter values that are representative of the acoustic signals generated by said at least one of said sources.

78. (New) An apparatus according to claim 77, wherein said analyser is operable to analyse said derived samples of parameter values to determine, for each acoustic signal source, respective parameter values that are representative of the acoustic signals generated by the corresponding source.

79. (New) An acoustic signal processing computer apparatus comprising:

one or more receiving means for receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a respective plurality of acoustic signal sources as modified by a respective transmission channel between each source and the or each receiving means;

means for storing data defining a predetermined function derived from a predetermined signal model which includes a plurality of first parts each associated with a respective one of said acoustic signal sources and each having a set of parameters which models the corresponding source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more receiving means, each second part having a respective set of parameters which models the corresponding channel, said function being in terms of the parameters and generating, for a given set of received signal values, a probability density function which defines, for a given set of parameters, the probability that the predetermined signal model has those parameter values, given that the signal model is assumed to have generated the received set of signal values;

means for applying said set of received signal values to said function;

means for processing said function with those values applied to derive samples of the parameters associated with at least one of said first parts from said probability density function; and

means for analysing at least some of said derived samples to determine values of said parameters of said at least one first part, that are representative of the acoustic signal generated by the source corresponding to said at least one first part before it was modified by the corresponding transmission channel.

80. (New) A computer readable medium storing computer executable instructions for causing a programmable computer device to carry out an acoustic signal processing method, the computer executable instructions comprising instructions for:

receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a plurality of signal sources using one or more receivers;

storing a predetermined function which gives, for a given set of received signal values, a probability density for parameters of a respective signal model, each of which is assumed to have generated a respective one of the acoustic signals represented by the received signal values;

applying the set of received signal values to said stored function to generate said probability density function;

processing said probability density function to derive samples of parameter values from said probability density function; and

analysing at least some of said derived samples of parameter values to determine, for at least one acoustic signal source, parameter values that are representative of the acoustic signals generated by said at least one of said sources.

81. (New) A computer readable medium storing computer executable instructions for causing a programmable computer device to carry out an acoustic signal processing method, the computer executable instructions comprising instructions for:

using one or more receivers to receive a set of signal values representative of a combination of a plurality of acoustic signals generated by a respective plurality of signal sources as modified by a respective transmission channel between each source and the or each receiver;

storing data defining a predetermined function derived from a predetermined signal model which includes a plurality of first parts each associated with a respective one of said acoustic signal sources and each having a set of parameters which models the corresponding source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more receivers, each second part having a respective set of parameters which models the corresponding channel, said function being in terms of said parameters and generating, for a given set of received signal values, a probability density function which defines, for a given set of parameters, the probability that the predetermined signal model has those parameter values, given that the signal model is assumed to have generated the received set of signal values;

applying said set of received signal values to said function;

processing said function with those values applied to derive samples of the parameters associated with at least one of said first parts from said probability density function; and

analysing at least some of said derived samples to determine values of said parameters of said at least one first part, that are representative of the acoustic signal generated by the source corresponding to said at least one first part before it was modified by the corresponding transmission channel.

82. (New) Computer executable instructions for causing a programmable computer device to carry out an acoustic signal processing method, the computer executable instructions comprising instructions for:

receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a plurality of signal sources using one or more receivers;

storing a predetermined function which gives, for a given set of received signal values, a probability density for parameters of a respective signal model, each of which is assumed to have generated a respective one of the signals represented by the received signal values;

applying the set of received signal values to said stored function to generate said probability density function;

processing said probability density function to derive samples of parameter values from said probability density function; and

analysing at least some of said derived samples of parameter values to determine, for at least one of said acoustic signal sources, parameter values that are representative of the acoustic signals generated by said at least one of said sources.

83. (New) Computer executable instructions for causing a programmable computer device to carry out an acoustic signal processing method, the computer executable instructions comprising instructions for:

using one or more receivers to receive a set of signal values representative of a combination of a plurality of acoustic signals generated by a respective plurality of signal sources as modified by a respective transmission channel between each source and the or each receiver;

storing data defining a predetermined function derived from a predetermined signal model which includes a plurality of first parts each associated with a respective one of said signal sources and each having a set of parameters which models the corresponding source and a plurality of second parts each for modelling a respective one of said transmission channels between said sources and said one or more receivers, each second part having a respective set of parameters which models the corresponding channel, said function being in terms of said parameters and generating, for a given set of received signal values, a probability density function which defines, for a given set of parameters, the probability that the predetermined signal model has those parameter values, given that the signal model is assumed to have generated the received set of signal values;

applying said set of received signal values to said function;

processing said function with those values applied to derive samples of the parameters associated with at least one of said first parts from said probability density function; and

analysing at least some of said derived samples to determine values of said parameters of said at least one first part, that are representative of the acoustic signal generated

by the source corresponding to said at least one first part before it was modified by the corresponding transmission channel.

84. (New) An apparatus according to claim 28, further comprising a receiver for receiving the encoded parameter values, which receiver includes a decoder operable to decode the encoded parameter values and a generator operable to generate an output signal in dependence upon the decoded parameter values.